TESTING & ENGINEERING CO.

GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306

1 of 64 ISP0086

Member of the SGS Group (Société Générale, de Surveillance)

July 21, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive East Chicago, IN 46312 Attn: Chuck Froman

Saeid Kamalpour

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900

FAX: (708) 333-3060

Sample identification by CT&E Co.

Kind of sample

reported to us

Furnace Coke

Sample ID: Shenago Furnace Coke

Sample taken at

Inland Steel Company

Sample taken by

CT&E Co.

Date sampled July 1, 1998

P.O. No. 6-H-8802

Date received July 1, 1998

ADDED CSR/CRI 7/21/98

Analysis Report No.

71-70527

Page 1 of 3

	As Received	Dry	<u>Basis</u>
% Moisture	2.09	xx	xxx
% Ash	8.64	8	.82
CRI		29.7	
CSR		56.0	
Bulk Density, L	b/Cf	27.0	
% Porosity		53.43	
Apparent Specif	ic Gravity	0.89	
True Specific G	ravity	1.911	
Stability		61.8	
Void Fraction		.5366*	

* Note: Void Fraction performed in a 1 cubic foot box.

METHODS

Ash: ASTM D 3174; Bulk Density: ASTM D 4292; Porosity: Calculated Value; Apparent Specific Gravity: Modified ASTM D 5004; True Specific Gravity: ASTM D 167; Stability: ASTM D 3402

Void Fraction: Inland Steel in-house procedure

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory



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OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES F-465/071/95 TERMS AND CONDITIONS ON REVERSE

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July 21, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by

CT&E Co.

Kind of sample

Furnace Coke reported to us

Sample ID: Shenago Furnace Coke

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

Date sampled July 1, 1998 P.O. No. 6-H-8802

Date received July 1, 1998

ADDED CSR/CRI 7/21/98

Analysis Report No. 71-70527

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MINERAL ANALYSIS	<u>Ignited Basis, % Weigh</u>
Silica, SiO ₂	50.00
Alumina, Al ₂ O ₃	27.92
Titania, TiO2	1.18
Iron oxide, Fe ₂ O ₃	7.21
Calcium oxide, CaO	2.02
Magnesium oxide, MgO	0.71
Potassium oxide, K ₂ O	1.60
Sodium oxide, Na ₂ 0	0.55
Sulfur trioxide, SO3	1.11
Phosphorus pentoxide, P205	0.31
Strontium oxide, SrO	0.10
Barium oxide, BaO	0.10
Manganese oxide, Mn3O4	0.07
Undetermined	7.12
	100.00

Phosphorus pentoxide: ASTM D 2795; Sulfur trioxide: ASTM D 5016; Barium & Strontium oxide: ASTM D 3682-ICP

Balance of oxides: ASTM D 3682

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Appl. No. 09/846,829

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

July 21, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled July 1, 1998

Date received July 1, 1998

Sample ID: Shenago Furnace Coke

P.O. No. 6-H-8802

ADDED CSR/CRI 7/21/98

Analysis Report No.

71-70527

Page 3 of

SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	4.20	4.20	95.80
3" Sq	2" Sq	41.41	45.61	54.39
2" Sq	1 1/4" Sq	45.19	90.80	9.20
1 1/4" Sq	1" Sq	6.73	97.53	2.47
1" Sq	3/8" Sq	1.39	98.92	1.08
3/8" Sq	0	1.08	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

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4 of 64 ISP0086

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August 31, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled August 7, 1998

Date received August 7, 1998

Sample ID: Shenango Coke

P.O. No. 6-H-8802

Analysis Report No. 71-73635

Page 1 of 4

CRI	21.1
CSR	69.9
Bulk Density, Lb/Cf	30.6
% Porosity	48.70
Apparent Specific Gravity	0.99
True Specific Gravity	1.93
Stability	62.8
Void Fraction	5504

* Note: Void Fraction performed in a 1 cubic foot box.

Bulk Density: ASTM D 4292; Porosity: Calculated Value; Apparent Specific Gravity: Modified ASTM D 5004; True Specific Gravity: ASTM D 167; Stability: ASTM D 3402 Void Fraction: Inland Steel in-house procedure

10/7/98

CO.



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TEL: (708) 331-2900 FAX: (708) 333-3060

August 31, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Shenango Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled August 7, 1998

P.O. No. 6-H-8802

Date received August 7, 1998

Analysis Report No. 71-73635

Page 2 of

MINERAL ANALYSIS	Ignited Basis, % Weight
Silica, SiO ₂	51.00
Alumina, Al ₂ 03	27.30
Titania, TiO2	1.15
Iron oxide, Fe ₂ 0 ₃	13.46
Calcium oxide, CaO	1.41
Magnesium oxide, MgO	0.72
Potassium oxide, K ₂ 0	1.80
Sodium oxide, Na20	0.62
Sulfur trioxide, SO3	0.83
Phosphorus pentoxide, P205	0.26
Strontium oxide, SrO	0.09
Barium oxide, BaO	0.08
Manganese oxide, Mn ₃ 0 ₄	0.07
Undetermined	1.21
	100.00

Phosphorus pentoxide: ASTM D 2795; Sulfur trioxide: ASTM D 5016; Barium & Strontium oxide: ASTM D 3682-ICP

Balance of oxides: ASTM D 3682

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO

/ Marlager, South Holland Laboratory

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August 31, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312

Attn: Chuck Froman Mail Code 2606

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled August 7, 1998

Date received August 7, 1998 PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD.

SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by

CT&E Co.

Sample ID: Shenango Coke

P.O. No. 6-H-8802

Analysis Report No.

71-73635

Page 3 of

SIEVE ANALYSIS

			<u>CUMULATIVE</u>	RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	2.23	2.23	97.77
3" Sq	2" Sq	32.89	35.12	64.88
2" Sq	1 1/4" Sq	50.99	86.11	13.89
1 1/4" Sq	1" Sq	9.88	95.99	4.01
1" Sq	3/8" Sq	1.96	97.95	2.05
3/8" Sq	0	2.05	100.00	.0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.





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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

August 31, 1998

INLAND STEEL COMPANY
Plant 2 Blast Furnaces (2-606)
3210 Watling Street
East Chicago, IN 46312
Attn: Chuck Froman

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Shenango Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled August 7, 1998

P.O. No. 6-H-8802

Date received August 7, 1998

Analysis Report No.

71-73635

Page 4 of 4

SHORT PROXIMATE ANALYSIS

	As Received	Dry Basis		
% Moisture	4.34	xxxxx		
%Ash	8.84	9.24		
Btu/lb	12660	13234	MAF	14581
% Sulfur	0.70	0.73		

METHODS

Moisture: ASTM D 4931; Ash: ASTM D 4422; Btu/lb: ASTM D 3286; Sulfur: ASTM D 4239 (Method C)

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



Filed 05/01/2001

September 22, 1998

COMMERCIAL TESTING & ENGINEERING CO.

ISP0086

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 931-2900 FAX: (708) 333-3060

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive

Bast Chicago, IN 46312 Attn: Pinakin Chaubal

Sample identification by

CTAE Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company .

Sample ID: Indy Furnace Coke

No. 6 Stockhouse

Sample taken by CT&E Co.

Date sampled September 2, 1998

Date received September 2, 1998

P.O. No. 6-H-8802

Analysis Report No.

71-75649

Page 1 of

SMALL PROXIMATE ANALYSIS

	As Received	Dry Basis
♦ Moisture	2.75	XOOOC
* Ash	7.78	8.00
Volatile	0.51	0.52
% Fixed Carbon	<u>88.96</u>	91.48
	100.00	100.00
% Sulfur	0.50	0.51
CSR		57.8
CRI		32.1

METHODS

Moisture: ASTM D 3302; Ash: ASTM D 3174; Volatile: ASTM D 3175; Fixed Carbon: Calculated Value; ASTM D 3172 Sulfur: ASTM D 4239 (Method C); CSR/CRI ASTM D 5341

Respectfully submitted.
COMMERCIAL TESTING & ENGINEERING CO.

appager South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 485/071/95 shal Watermarked For Your Protection

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

September 22, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive East Chicago, IN 46312 Attn: Pinakin Chaubal

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Indy Furnace Coke

Sample taken at Inland Steel Company No. 6 Stockhouse

Sample taken by CTEE Co.

> Date sampled September 2, 1998

Date received September 2, 1998

P.O. No. 6-H-8802

71-75649

Analysis Report No.

Page 2 of

MINERAL ANALYSIS	Ignited Basis, & Weight
Silica, SiO ₂	50.7 4
Alumina, Al ₂ 0 ₃	29.42
Titania, TiO2	1,42
Iron oxide, Fe ₂ 0 ₃	13.12
Calcium oxide, CaO	0.76
Magnesium oxide, MgO	0.75
Potassium oxide, K ₂ O	1.75
Sodium oxide, Na ₂ O	0.75
Sulfur trioxide, SO3	0.15
Phosphorus pentoxide, P205	0.18
Strontium oxide, SrO	. 0.11
Barium oxide, BaO	0.11
Manganese oxide, Mn304	0.10
Undaterained	0.64
	100.00

METHOD

Phosphorus pentoxide: ASTM D 2795; Sulfur trioxide: ASTM D 5016; Barium & Strontium oxide: ASTM D 3682-1CP Balance of oxides: ASTM D 3682

> Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

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September 22, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive Bast Chicago, IN 46312 Attn: Pinakin Chaubal

Sample identification by CTEE Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Indy Furnace Coke Sample ID: No. 6 Stockhouse

CTAE Co. Sample taken by

September 2, 1998 Date sampled

Date received September 2, 1998

P.O. No. 6-H-8802

Analysis Report No.

71-75649

Page 3 of 4

SIEVE ANALYSIS

			CUMULATIVE	RESULTS
Passing	Retained on	% Weight	% Retained	Passing
	4" 8q	0.00	0.00	100.00
4º Sq	3 1/2" Sq	0.00	0.00	100.00
3 1/2° Sq	3" Sq	1.14	1,14	98.86
3" Sq	2 1/2" Sq	6.00	7.14	92.86
2 1/2" Sq	2" Sq	18.12	25.26	74.74
2" 5q	1 1/2" Sq	41.69	66.95	33.05
1 1/2" Sq	1 1/4" Sq	20.15	87.10	12.90
1 1/4" Sq	1" Sq	9.12,30,96	96,22	3.78
1 90	0	3.78	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



COMMERCIAL TESTING & ENGINEERING CO.

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September 22, 1998

INLAND STEEL COMPANY Research Laboratory 3001 East Columbus Drive Bast Chicago, IN 46312

Attn: Pinakin Chaubal

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (706) 333-3060

Sample identification by CTAR Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company .

Indy Furnace Coke Sample ID: No. 6 Stockhouse

Sample taken by CT&E Co.

Date sampled September 2, 1998

Date received September 2, 1998

P.O. No. 6-H-8802

Analysis Report No. 71-75649 Page 4 of

Bulk Density, Lb/Cf 31.3 Apparent Specific Gravity 0.958 True Specific Gravity 1.89 Porosity 49.31 Void Fraction 0.5019 *

Tumbler Test

Stability 62.8 Hardness 64.8

* NOTE: Void Fraction performed in a 1 cubic foot box.

METHODS

Bulk Density: ASTM D 4292; Porosity: Calculated Value; Apparent Specific Gravity, True Specific Gravity, & Porosity: ASTM D 167; Stability/Hardness: ASTM D3402 Void Fraction: Inland in-house procedure

> Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO

Manager, South Holland Laboratory

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TEL: (708) 331-2900 FAX: (708) 333-3060

October 23, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample ID: Mitsui Furnace Coke

No. 6 Stockhouse

Sample taken by CT&E Co.

Date sampled September 30, 1998

Date received September 30, 1998

P.O. No. 6-H-8802

Analysis Report No.

71-77195

Page 1 of

SHORT PROXIMATE ANALYSIS

	As Received	Dry Basis		
% Moisture	5.63	XXXXXXX		
de&#</td><td>10.02</td><td>10.62</td><td></td><td></td></tr><tr><td>Btu/lb</td><td>12213</td><td>12942</td><td>MAF</td><td>14480</td></tr><tr><td>% Sulfur</td><td>0.57</td><td>0.60</td><td>-</td><td></td></tr></tbody></table>				

METHODS

Moisture: ASTM D 4931; Ash: ASTM D 4422; Btu/lb: ASTM D 3286; Sulfur: ASTM D 4239 (Method C)

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 165/071/95

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (706) 331-2900 FAX: (708) 333-3060

October 23, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company Sample ID: Mitsui Furnace Coke

No. 6 Stockhouse

Sample taken by CT&E Co.

> Date sampled September 30, 1998

Date received September 30, 1998

P.O. No. 6-H-8802

Analysis Report No. 71-77195

Page 2 of

CRI	22.75
CSR	•
COR	66.15
Bulk Density, Lb/Cf	33.4
% Porosity	
_	49.47
Apparent Specific Gravity	0.96
True Specific Gravity	1.90
Stability	62.5
Void Fraction	. 5158

^{*} Note: Void Fraction performed in a 1 cubic foot box.

METHODS

Bulk Density: ASTM D 4292; Porosity: Calculated Value; Apparent Specific Gravity: Modified ASTM D 5004; True Specific Gravity: ASTM D 167; Stability: ASTM D 3402 Void Fraction: Inland Steel in-house procedure

Respectfully submitted COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

October 23, 1998

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman

Sample identification by

CT&E Co.

Kind of sample

Furnace Coke reported to us

Sample taken at Inland Steel Company Sample ID: Mitsui Furnace Coke

No. 6 Stockhouse

Sample taken by CT&E Co.

> Date sampled September 30, 1998

Date received September 30, 1998 P.O. No. 6-H-8802

Analysis Report No. 71-77195 Page 3 of

MINERAL ANALYSIS	Ignited Basis, % Weight
Silica, SiO ₂	55.81
Alumina, Al ₂ O ₃	31.62
Titania, TiO ₂	1.47
Iron oxide, Fe ₂ O ₃	3.93
Calcium oxide, CaO	2.13
Magnesium oxide, MgO	0.75
Potassium oxide, K ₂ O	0.80
Sodium oxide, Na ₂ O	0.51
Sulfur trioxide, SO3	0.45
Phosphorus pentoxide, P205	0.65
Strontium oxide, SrO	0.10
Barium oxide, BaO	0.20
Manganese oxide, Mn3O4	0.07
Undetermined	1.51
	100.00

METHOD

Phosphorus pentoxide: ASTM D 2795; Sulfur trioxide: ASTM D 5016; Barium & Strontium oxide: ASTM D 3682-1CP

Balance of oxides: ASTM D 3682

Respectfully submitted. COMMERCIAL TESTING & ENGINE



EXHIRIT D

15 of 64 ISP0086

Member of the SGS Group (Société Générale de Surveillance)

October 23, 1998

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN AD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3080

INLAND STEEL COMPANY Plant 2 Blast Furnaces (2-606) 3210 Watling Street East Chicago, IN 46312 Attn: Chuck Froman Mail Code 2606

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled September 30, 1998

Date received September 30, 1998 Sample ID: Mitsui Furnace Coke

No. 6 Stockhouse

P.O. No. 6-H-8802

Analysis Report No.

71-77195

Page

SIEVE ANALYSIS

Passing	Retained on	0 1		RESULTS
- 45521.9	ketained on	% Weight	% Retained	&Passing
•	4" Sq	0.34	0.34	99.66
4" Sq 3" Sq	3" Sq	2.83	3.17	96.83
3" Sq 2" Sq	2" \$q	29.31	32.48	6 7 .52
1 1/4" Sa	1 1/4" Sq	56.97	89.45	10.55
1" Sq	1" Sq	7.06 103 1.03	96.51	3.49
3/8" Sq	3/8" Sq		97 ₋ 54	2.46
370 3Q	0	2.46 3.49	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

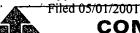
Manager, South Holland Laboratory

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November 3, 1998

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8232 East Chicago, IN 46312 Attn: Bill Ambry - M/C 8161

Sample identification by Inland Steel Company

Kind of sample

reported to us Furnace Coke

Sample ID: Mitsui Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled October 21, 1998

Date received October 21, 1998 Release No. xxx P.O. No. 6-H-8802

Analysis Report No. 71-78623

Page 1 of 3

Porosity

Apparent Specific Gravity 0.97

True Specific Gravity 1.94

METHODS

Porosity: Calculated Value; Apparent Specific Gravity

True Specific Gravity: ASTM D 167

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

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FAX: (708) 333-3060

INDIANA HARBOR COKE COMPANY

3210 Watling St. Mail C. 2-990 East Chicago, IN 46312 Attn: Joan Etter

November 10, 1998

Sample identification by CT&E Co.

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled October 31, 1998

Date received October 31, 1998

Sample ID: 103198-A

Analysis Report No. 71-79183

Page 1 of

Apparent Specific Gravity 0.97 True Specific Gravity 1.93

Porosity 49.7

METHODS

ASG/TSG/Porosity: ASTM D 167

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



Appl. No. 09/846,829

Filed 05/01/2001

EXHIBIT D 18 of 64

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November 10, 1998

INDIANA HARBOR COKE COMPANY 3210 Watling St. Mail C. 2-990 East Chicago, IN 46312 Attn: Joan Etter

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN AD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by CT&E Co.

103098-A

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled October 30, 1998

Date received October 30, 1998

Analysis Report No. 71-79151

Page 1 of

Apparent Specific Gravity 0.94 True Specific Gravity 1.91

Porosity

50.8

Sample ID:

METHODS

ASG/TSG/Porosity: ASTM D 167

Respectfully submitted.

COMMERCIAL TESTING & ENGINEERING CO.

Appl. No. 09/846,829 Filed 05/01/2001

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Sample identification by CT&E Co.

Sample ID: 102998-A

November 10, 1998

INDIANA HARBOR COKE COMPANY 3210 Watling St. Mail C. 2-990 East Chicago, IN 46312 Attn: Joan Etter

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled October 29, 1998

Date received October 29, 1998

Analysis Report No. 71-79166

Page 1 of

Apparent Specific Gravity 0.95 True Specific Gravity 1.93

Porosity

50.8

METHODS

ASG/TSG/Porosity: ASTM D 167

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 65/071/95 TEDIAC AND CONDITIONS ON COURSE

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November 23, 1998

INDIANA HARBOR COKE COMPANY 3210 Watling St. Mail C. 2-990 East Chicago, IN 46312

Attn: Joan Etter

Sample identification by CT&E Co.

110298-A

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled November 2, 1998

Date received November 2, 1998

Analysis Report No. 71-79321

Page 1 of

Apparent Specific Gravity 0.98 True Specific Gravity 1.94

Porosity

49.5

Sample ID:

METHODS

ASG/TSG/Porosity: ASTM D 167

DISTRIBUTION

C: Ostenberg • Inland Steel Co.

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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November 23, 1998

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SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3080

PLEASE ADDRESS ALL CORRESPONDENCE TO:

Sample identification by CT&E Co.

110198-A

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled November 1, 1998

November 1, 1998 Date received

> Analysis Report No. 71-79430

Page 1 of

Apparent Specific Gravity 0.97 True Specific Gravity 1.92

Porosity

49.6

Sample ID:

METHODS

ASG/TSG/Porosity: ASTM D 167

DISTRIBUTION

C. Ostenberg - Inland Steel Co.

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

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Sample identification by

CT&E Co.

Kind of sample

Metallurgical Furnace Coke reported to us

Indiana Harbor Coke Co. Sample taken at

Sample taken by Mechanical by CT&E Co.

October 29-31, 1998 Date sampled November 1-2, 1998

November 24, 1998 Date received

Sample ID: Calculated Coke Composite

of IHCC Furnace Coke from

"A" Battery

P.O. No.6-J-8802

Analysis Report No. 71-80913-1

Page 1 of

SMALL PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.27	xxxxx
% Ash	8.39	8.76
% Volatile	0.41	0.43
% Fixed Carbon	86.93	90.81
	100.00	100.00
% Sulfur	0.61	0.64

Moisture: ASTM D 3302; Ash: ASTM D 3174; Volatile: ASTM D 3175; Fixed Carbon: Calculated Value; ASTM D 3172

Sulfur: ASTM D 4239 (Method C)

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Mapager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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January 21, 1999

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by CT&E Co.

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

October 29-31, 1998 Date sampled

November 1-2, 1998

November 24, 1998 Date received

Sample ID: Calculated Coke Composite

of IHCC Furnace Coke from

"A" Battery

P.O. No.6-J-8802

Analysis Report No. 71-80913-1 Page 2 of 3

Porosity

50.26

Apparent Specific Gravity

0.96

True Specific Gravity

1.93

Bulk Density lb/ft3

29.5

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

> Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Mapager, South Holland Laboratory

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January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by CT&E Co.

Kind of sample

reported to us Metallurgical Furnace Coke

Sample taken at Indiana Harbor Coke Co.

Sample taken by Mechanical by CT&E Co.

Date sampled October 29:31, 1998

November 1-2, 1998

Date received November 24, 1998

Sample ID: Calculated Coke Composite

of IHCC Furnace Coke from

PLEASE ADDRESS ALL CORRESPONDENCE TO:

"A" Battery

P.O. No.6-J-8802

Analysis Report No.

71-80913-1

Page 3 of 3

SIEVE ANALYSIS

			CUMULATIVE	RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	10.01	10.01	89.99
3" Sq	2" Sq	41.22	51.23	48.77
2" Sq	1" Sq	45.42	96.65	3.35
1" Sq	0	3.35	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 65/071/95

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TEL: (708) 331-2900 FAX: (708) 333-3060

January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

reported to us Furnace Coke

Sample ID:

Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #5

Sample taken by Citizens G & C Personnel

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No. 71-80592

Page 1 of

Porosity

49.46

Apparent Specific Gravity

0.93

True Specific Gravity

1.84

Bulk Density 1b/ft3

25.7

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value

Density: ASTM D 291

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

January 21, 1999

Sample identification by Citizens G & C Personnel

Kind of sample

reported to us Furnace Coke

Sample ID: Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #5

Sample taken by Citizens G & C Personnel

Date sampled -----

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No.

71-80592

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIVE RESULTS	
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	24.97	24.97	75.03
3" Sa	2" Sq	55.80	80.77	19.23
2" Sq	1" Sq	18.23	99.00	1.00
1" Sa	0	1.00	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



EXHIBIT D

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TEL: (708) 331-2900 FAX: (708) 333-3060

January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

Furnace Coke reported to us

Sample ID:

Indy Coke

Sample taken at

Citizens G & C, Indianapolis, IN

Drum #4

Sample taken by

Citizens G & C Personnel

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No.

71-80591

1 of Page

Porosity

49.46

Apparent Specific Gravity

0.94

True Specific Gravity

1.86

Bulk Density lb/ft3

25.7

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value

Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 465/071/95 TERMS AND CONDITIONS ON REVERSE

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January 21, 1999

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Sample identification by Citizens G & C Personnel

Kind of sample

Furnace Coke reported to us

Sample ID:

Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN Drum #4

Citizens G & C Personnel Sample taken by

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No.

71-80591

Page 2 of

SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	9.87	9.87	90.13
3" Sq	2" Sq	45.57	55.44	44.56
2" Sq	1" Sq	41.90	97.34	2.66
1" Sα	0	2.66	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING

(Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 65/071/95 TERMS AND CONDITIONS ON REVERSE

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January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

Furnace Coke reported to us

Sample ID: Indy Coke

Citizens G & C, Indianapolis, IN Sample taken at

Drum #3

Sample taken by Citizens G & C Personnel

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

71-80590 Analysis Report No.

Page 1 of

Porosity 47.51

Apparent Specific Gravity 0.95

True Specific Gravity 1:81

Bulk Density lb/ft3 27.1

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value

Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

COMMERCIAL TESTING & ENGINEERING CO.

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January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

Furnace Coke reported to us

Sample ID: Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #3

Citizens G & C Personnel Sample taken by

Date sampled

Date received November 24, 1998.

P.O. No.6-J-8802

71-80590

Analysis Report No.

2 of

SIEVE ANALYSIS

	,		<u>CUMULATIVE RESULT</u>	
<u>Passing</u>	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	10.48	10.48	89.52
3" Sq	2" Sq	34.64	45.12	54.88
2" Sq	1" Sq	51.43	96.55	3.45
1" Sq	0	3.45	100.00	0.00

<u>METHOD</u>

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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INLAND STEEL COMPANY

January 21, 1999

3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

Furnace Coke reported to us

Sample ID: Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #2

Citizens G & C Personnel Sample taken by

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No. 71-80589 Page 1 of 2

Porosity

49.73

Apparent Specific Gravity

0.93

True Specific Gravity

1.85

Bulk Density lb/ft3

27.4

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

Marager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 165/071/95 TERMS AND CONDITIONS ON REVERSE

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INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

January 21, 1999

Sample identification by Citizens G & C Personnel

Kind of sample

reported to us Furnace Coke

Sample ID: Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #2

Sample taken by Citizens G & C Personnel

Date sampled

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No.

71-80589

Page 2 of

SIEVE ANALYSIS

			CUMULATIVE RESULTS	
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	12.48	12.48	87.52
3" Sq	2" Sq	52.97	65.45	34.55
2" Sq	1" Sq	32.41	97.86	2.14
1" Šq	0	2.14	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING



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SINCE 1908

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PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

reported to us Furnace Coke

Sample ID: Indy Coke

Drum #1

Sample taken at Citizens G & C, Indianapolis, IN

Drum #

Sample taken by Citizens G & C Personnel

Date sampled --

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No. 71-80588

Page 1 of

Porosity

48.07

0.94

Apparent Specific Gravity

1.81

Bulk Density lb/ft3

True Specific Gravity

27.5

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 65/071/95

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January 21, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by Citizens G & C Personnel

Kind of sample

reported to us Furnace Coke

Sample ID: Indy Coke

Sample taken at Citizens G & C, Indianapolis, IN

Drum #1

Sample taken by Citizens G & C Personnel

Date sampled -----

Date received November 24, 1998

P.O. No.6-J-8802

Analysis Report No.

71-80588

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIVE	
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	12.82	12.82	87.18
3" Sq	2" Sq	36.51	49.33	50.67
2" Sq	1" Sq	46.40	95.73	4.27
1" Sq	0	4.27	100.00	0.00

METHOD

Sieve Analysis: ASTM D 293

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

EXHIBIT D

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February 10, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

East Chicago, IN 46312

Attn: Bill Ambrey

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 1, 1999

Date received February 2, 1999

Sample ID: Mitsui Coke

P.O. No. 6-J-8802

Analysis Report No.

71-84902

Page 1 of

Porosity

51.55

Apparent Specific Gravity

True Specific Gravity

1.95

0.94

Bulk Density lb/ft3

35.1

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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TEL: (708) 331-2900

FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street

Mail Code 8161

February 10, 1999

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Mitsui Coke

Inland Steel Company Sample taken at

CT&E Co.

Date sampled

Sample taken by

February 1, 1999

Date received February 2, 1999

P.O. No. 6-J-8802

Analysis Report No.

71-84902

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sa	3" Sq	1.22	1.22	98.78
3" Sq	2" Sq	20.54	21.76	78.24
2" Sq	1" Sq	67.82	89.58	10.42
1" Sq	0	10.42	100.00	0.00

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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February 10, 1999

Attn: Bill Ambrey

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled January 29, 1999

Date received January 29, 1999 Sample ID: Mitsui Coke

P.O. No. 6-J-8802

Analysis Report No. 71-84771

Page 1 of 2

Porosity

48.26

0.98

Apparent Specific Gravity

True Specific Gravity 1.89

Bulk Density lb/ft3 34.9

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



Appl. No. 09/846,829

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TEL: (708) 331-2900 FAX: (708) 333-3060

February 10, 1999

Attn: Bill Ambrey

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Sample identification by

CT&E Co.

Kind of sample

Furnace Coke reported to us

Sample ID: Mitsui Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled January 29, 1999

Date received January 29, 1999 P.O. No. 6-J-8802

71-84771

Analysis Report No.

Page 2 of

SIEVE ANALYSIS

		•	<u> CUMULATIV</u>	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.65	0.65	99.35
4" Sq	3" Sq	2.59	3.24	96.76
3" Sq	2" Sq	33.62	36.86	63.14
2" Sq	1" Sq	57.75	94.61	5.39
1" Sq	0	5.39	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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TEL: (708) 331-2900 FAX: (708) 333-3060

2

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

February 10, 1999

Sample identification by

CT&E Co.

Kind of sample

Furnace Coke reported to us

Sample ID: Shenango Coke

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

Date sampled February 1, 1999

Date received February 2, 1999

P.O. No. 6-J-8802

Analysis Report No. 71-84901 Page 1 of

Porosity 52.56

0.90 Apparent Specific Gravity

True Specific Gravity 1.90

Bulk Density lb/ft3 33.1

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 1, 1999

Date received February 2, 1999

Sample ID: Shenango Coke

P.O. No. 6-J-8802

Analysis Report No.

71-84901

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIVE	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	1.44	1.44	98.56
3" Sq	2" Sq	21.85	23.29	76.71
2" Sq	1" Sq	61.86	85.15	14.85
1" Sq	0	14.85	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWAJER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 165/071/95 inal Watermarked For Your Protection TERMS AND CONDITIONS ON REVERSE

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FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

February 10, 1999

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Shenango Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled January 29, 1999

Date received January 29, 1999

P.O. No. 6-J-8802

Analysis Report No. 71-84770 Page 1 of 2

Porosity

55.32

0.84

Apparent Specific Gravity

True Specific Gravity 1.88

Bulk Density lb/ft3 31.2

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900

FAX: (708) 333-3060

February 10, 1999

Attn: Bill Ambrey

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Shenango Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled January 29, 1999

Date received January 29, 1999 P.O. No. 6-J-8802

Analysis Report No.

71-84770

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SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4"Sq	0.00	0.00	100.00
4"Sq	3" Sq	4.82	4.82	95.18
3" Sq	2" Sq	27.89	32.71	67.29
2" Sq	1" Sq	55.96	88.67	11.33
1" Sq	0	11.33	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



February 18, 1999

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FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Usx Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 2, 1999

Date received February 3, 1999

Release No. XXX P.O. No. 6-J-8802

Analysis Report No. 71-84979

Page 1 of

Porosity

51.61

Apparent Specific Gravity

True Specific Gravity

1.86

0.90

Bulk Density lb/ft3

31.7

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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TEL: (708) 331-2900
FAX: (708) 333-3060

February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 2, 1999

Date received February 3, 1999

Sample ID: Usx Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-84979

Page 2 of

SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	2.83	2.83	97.17
3" Sq	2" Sq	35.10	37.93	62.07
2" Sq	1" Sq	55.68	93.61	6.39
1" Sq	0	6.39	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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SOUTH HOLLAND, IL 60473
TEL: (708) 331-2900
FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street

Mail Code 8161 East Chicago, IN 46312

February 18, 1999

Attn: Bill Ambrey

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Mitsui Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 3, 1999

Date received February 3, 1999

Release No. XXX P.O. No. 6-J-8802

Analysis Report No. 71-85066 Page 1 of

Porosity 47.28

Apparent Specific Gravity 0.97

True Specific Gravity 1.84

Bulk Density lb/ft3 33.6

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

PLEASE ADDRESS ALL CORRESPONDENCE TO:

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February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 3, 1999

Date received February 3, 1999

Sample ID: Mitsui Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-85066

2 of Page

SIEVE ANALYSIS

			<u>CUMULATIVE RESULTS</u>	
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	3.80	3.80	96.20
3" Sq	2" Sq	28.29	32.09	67.91
2" Sq	1" Sq	62.80	94.89	5.11
1" Sq	0	5.11	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES :65/071/95 inal Watermarked For Your Protection TERMS AND CONDITIONS ON REVERSE

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TEL: (708) 331-2900 FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street

Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: USX Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 3, 1999

Date received February 3, 1999

Release No. XXX P.O. No. 6-J-8802

Analysis Report No. 71-85067

Page 1 of

Porosity

51.10

Apparent Specific Gravity

True Specific Gravity

0.89 1.82

Bulk Density lb/ft3

32.6

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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TEL: (708) 331-2900 FAX: (708) 333-3060

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

February 18, 1999

East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: USX Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 3, 1999

Date received February 3, 1999 Release No. XXX P.O. No. 6-J-8802

Analysis Report No.

71-85067

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SIEVE ANALYSIS

		% Weight	CUMULATIVE RESULTS	
Passing	Retained on		% Retained	<u>%Passing</u>
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	0.60	0.60	99.40
3" Sq	2" Sq	22.62	23.22	76.78
2" Sq	1" Sq	58.49	81.71	18.29
1" Sq	0	18.29	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

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FAX: (708) 333-3060

Sample identification by

CT&E Co.

Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

INLAND STEEL COMPANY 3210 Watling Street

February 18, 1999

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 2, 1999

Date received February 3, 1999

Sample ID: Mitsui Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No. 71-84978 Page 1 of

Porosity

47.28

Apparent Specific Gravity

0.97

True Specific Gravity

1.84

Bulk Density lb/ft3

38.3

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

EXHIBIT D

MERCIAL TESTING & ENGINEERING CO.

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TEL: (708) 331-2900 FAX: (708) 333-3060

February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company.

Sample taken by CT&E Co.

> Date sampled February 2, 1999

Date received February 3, 1999

Sample ID: Mitsui Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-84978

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SIEVE ANALYSIS

			CUMULATIV.	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.38	0.38	99.62
4" Sq	3" Sq	5.91	6.29	93.71
3" Sq	2" Sq	25.89	32.18	67.82
2" Sq	1" Sq	44.19	76.37	23.63
1" Sq	0	23.63	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

5T of 64

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Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

INLAND STEEL COMPANY

February 18, 1999

3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 3, 1999

Date received February 3, 1999

Sample ID: Shenango Coke

Release No. XXX P.O. No. 6-J-8802

Analysis Report No.

71-85065

Page 1 of

Porosity

53.55

Apparent Specific Gravity

0.85

True Specific Gravity

1.83

Bulk Density lb/ft3

33.5

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

Appl. No. 09/846,829 Filed 05/01/200

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FAX: (708) 333-3060

Attn: Bill Ambrey

February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 3, 1999

Date received February 3, 1999

Sample ID: Shenango Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No. 71-85065

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIV	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	3.06	3.06	96.94
3" Sq	2" Sq	26.83	29.89	70.11
2" Sq	1" Sq	45.30	75.19	24.81
1" Sq	0	24.81	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 465/071/95

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TEL: (708) 331-2900 FAX: (708) 333-3060

February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 2, 1999

Date received February 3, 1999

Sample ID: Shenago Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No. 71-84977

Page 1 of 2

Porosity

51.91

0.88

Apparent Specific Gravity

Bulk Density lb/ft3

True Specific Gravity

1.83 30.1

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value; Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

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February 18, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 2, 1999

Date received February 3, 1999

Sample ID: Shenago Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-84977

Page 2 of

SIEVE ANALYSIS

			CUMULATIVI	E RESULTS
Passing	Retained on	% Weight	% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	2.01	2.01	97.99
3" Sq	2" Sq	29.40	31.41	68.59
2" Sq	1" Sq	61.59	93.00	7.00
1" Sq	0	7.00	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

TERMS AND CONDITIONS ON REVERSE



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February 19, 1999

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Sample identification by

CT&E Co.

Kind of sample

Sample taken at

reported to us Furnace Coke

Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 5, 1999

Date received February 5, 1999

Sample ID: Mitsui Coke

Release No. XXX P.O. No. 6-J-8802

51.81

Analysis Report No. 71-85160

Page 1 of 2

Porosity

Apparent Specific Gravity 0.93

True Specific Gravity 1.83

Bulk Density lb/ft3 32.9

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

> Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



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INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Attn: Bill Ambrey

February 19, 1999

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

Date sampled February 5, 1999

Date received February 5, 1999

Sample ID: Mitsui Coke

Release No. XXX P.O. No. 6-J-8802

Analysis Report No.

71-85160

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SIEVE ANALYSIS

Passing	Retained on	% Weight	% Retained	&Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	2.43	2.43	97.57
3" Sq	2" Sq	23.73	26.16	73.84
2" Sq	1" Sq	67.38	93.54	6.46
1" Sq	0	6.46	100.00	0.00

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.



ISP0086

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February 19, 1999

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INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: Shenango Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled February 5, 1999

Date received February 5, 1999 Release No. XXX P.O. No. 6-J-8802

Analysis Report No. 71-85159

1 of 2 Page

Porosity

52.17

Apparent Specific Gravity

0.88

True Specific Gravity

1.84

Bulk Density lb/ft3

32.5

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value

Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

465/071/95 jinal Watermarked For Your Protection

TERMS AND CONDITIONS ON REVERSE

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February 19, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company.

Sample taken by CT&E Co.

> Date sampled February 5, 1999

Date received February 5, 1999

Sample ID: Shenango Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-85159

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SIEVE ANALYSIS

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METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOGATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES .65/071/95 inal Watermarked For Your Protection TERMS AND CONDITIONS ON REVERSE

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February 19, 1999

Attn: Bill Ambrey

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312

Sample identification by

CT&E Co.

Kind of sample

Furnace Coke reported to us

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

Date sampled February 5, 1999

Date received February 5, 1999

Release No. XXX P.O. No. 6-J-8802

Sample ID: USX Coke

Analysis Report No. 71-85161 Page

Porosity 50.00

Apparent Specific Gravity 0.90

True Specific Gravity 1.80

Bulk Density lb/ft3 34.3

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

1 of 2

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February 19, 1999

INLAND STEEL COMPANY 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

Sample identification by CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 5, 1999

Date received February 5, 1999

Sample ID: USX Coke

Release No. XXX

P.O. No. 6-J-8802

Analysis Report No.

71-85161

Page 2 of 2

SIEVE ANALYSIS

			CUMULATIVE RESULTS	
Passing	Retained on	% Weight	<pre>% Retained</pre>	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	2.66	2.66	97.34
3" Sq	2" Sq	25.51	28.17	71.83
2" Sq	1" Sq	49.98	78.15	21.85
1" Sq	0	21.85	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Mahager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 465/071/95 IPEN AND CONDITIONS ON REVERSE

EXHIBIT D

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1 of

Page

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March 8, 1999

ISPAT INLAND, INC. 3210 Watling Street Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060

Sample identification by CT&E Co.

Kind of sample

Furnace Coke reported to us

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

> Date sampled January 29, 1999

Date received January 29, 1999

Sample ID: **USX** Coke

P.O. No. 6-J-8802

71-84772

REVISED SIEVE ANALYSIS 03/08/99

Porosity 53.30 Apparent Specific Gravity 0.92 True Specific Gravity 1.97

Analysis Report No.

Bulk Density lb/ft3 33.0

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value Density: ASTM D 291

> Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

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March 8, 1999

ISPAT INLAND, INC. 3210 Watling Street

Mail Code 8161 East Chicago, IN 46312 Attn: Bill Ambrey

SOUTH HOLLAND, IL 60473 TEL: (708) 331-2900 FAX: (708) 333-3060 Sample identification by

PLEASE ADDRESS ALL CORRESPONDENCE TO:

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

> Date sampled January 29, 1999

Date received January 29, 1999 Sample ID: USX Coke

P.O. No. 6-J-8802

REVISED SIEVE ANALYSIS 03/08/99

Analysis Report No.

71-84772

CT&E Co.

Page 2 of 2

SIEVE ANALYSIS

	Retained on	% Weight	CUMULATIVE RESULTS	
Passing			% Retained	%Passing
	4" Sq	0.00	0.00	100.00
4" Sq	3" Sq	1.48	1.48	98.52
3" Sq	2" Sq	55.66	57.14	42.86
2" Sq	1" Sq	24.25	81.39	18.61
1" Sq	0	18.61	100.00	0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 465/071/95 inal Watermarked For Your Protection TERMS AND CONDITIONS ON REVERSE



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Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO: 16130 VAN DRUNEN RD. SOUTH HOLLAND, IL 60473

TEL: (708) 331-2900 FAX: (708) 333-3060

ISPAT INLAND, INC. 3210 Watling Street

Mail Code 8161

March 8, 1999

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample ID: USX Coke

Inland Steel Company Sample taken at

Sample taken by CT&E Co.

Date sampled February 1, 1999

P.O. No. 6-J-8802

Date received February 2, 1999

REVISED SIEVE ANALYSIS 3/8/99

Analysis Report No. 71-84903 Page 1 of

Porosity

61.34

0.75

Apparent Specific Gravity

True Specific Gravity

1.95

Bulk Density lb/ft3

31.3

METHODS

True & Apparent Specific Gravity: ASTM D 167; Porosity: Calculated Value

Density: ASTM D 291

Respectfully submitted, COMMERCIAL TESTING & ENGINEERING CO.

Manager, South Holland Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES 165/071/95 inal Watermarked For Your Protection TERMS AND CONDITIONS ON REVERSE

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ISPAT INLAND, INC. 3210 Watling Street

Mail Code.8161

East Chicago, IN 46312

Attn: Bill Ambrey

Sample identification by

CT&E Co.

Kind of sample

reported to us Furnace Coke

Sample taken at Inland Steel Company

Sample taken by CT&E Co.

Date sampled February 1, 1999

P.O. No. 6-J-8802

Sample ID: USX Coke

Date received February 2, 1999

REVISED SIEVE ANALYSIS 3/8/99

Analysis Report No.

71-84903

Page 2 of

SIEVE ANALYSIS

Passing	Retained on	% Weight	CUMULATIVE Retained	E RESULTS %Passing
4" Sq 3" Sq 2" Sq 1" Sq	4" Sq 3" Sq 2" Sq 1" Sq 0	0.00 2.21 34.26 56.07 7.46	0.00 2.21 36.47 92.54 100.00	100.00 97.79 63.53 7.46 0.00

METHOD

Sieve Analysis: ASTM D 4749

Respectfully submitted. COMMERCIAL TESTING & ENGINEERING CO.

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES [65/071/95 inal Watermarked For Your Protection THE PERSON NO

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